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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/824,794

04/14/2004

Robert C. U. Yu

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7590

06/08/2006

Patent Documetation Center
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Xerox Square 20th Floor
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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT

PAPER NUMBER

1756

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/824,794	Applicant(s) YU ET AL.	
	Examiner Christopher RoDee	Art Unit 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-20 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/14/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

Claims 14 is objected to because of the following informalities: the resistivity of the ground strip layer has a typographical error in the super script 10^7 . Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu *et al.* in US Patent 5,382,486 in view of Service in US Patent 6,932,921.

Yu discloses a layered electrophotographic imaging member comprising a support substrate **32**, a blocking layer **34**, a charge transport layer **40**, charge generator layer **38**, a conductive ground strip **41**, and an anti-curl back coating **33** as seen in Figure 3 (col. 8, l. 47 – col. 12, l. 66). The substrate is a flexible belt, which may be positioned around rollers (i.e., a drelt) (col. 8, l. 33-60). The surface resistivity of the ground strip layer is less than 1×10^6 ohms per square (col. 13, l. 48-53). The conductive ground strip layer contains an acid-doped polyaniline dispersed in a binder resin (col. 14, l. 44 – col. 15, l. 68; Examples IX-XI), but may also contain graphite (col. 13, l. 21). Makrolon 5705 is disclosed as a useful ground strip layer (col. 18, l. 27-31), which is a bisphenol A polycarbonate (see spec. ¶ [0044]). The polyaniline is

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treated with an acid such as a sulfuric acid (col. 15, l. 26). The amount of the electrically conductive particles controls the resistivity of the ground strip layer (col. 13, l. 18-44) with an amount of less than about 35 weight percent useful (col. 13, l. 39-42). A suitable thickness of the ground strip layer is 17 microns (col. 16, l. 26-31). Yu does not disclose the lignin sulfonic acid doped polyaniline dispersion of the instant claims but Service teaches that conductive polymer films made from a dispersion of lignosulfonic acid doped polyaniline in a polymer have surface resistivities of from about 10^2 to about 10^{10} ohms per square (Abstract; col. 6, l. 55-59). The lignosulfonic acid doped polyaniline is effectively dispersed in a fluoropolymer composition, such as polyvinyl fluorides, to form the conductive films of the invention (col. 2, l. 49 – col. 3, l. 51; col. 6, l. 60-67). The fluoropolymers can also be used as a dispersion (col. 3, l. 55) with PTFE as a specifically disclosed fluoropolymer (col. 3, l. 22 & 55). The reference also teaches that conductivity can be controlled by the grinding time of the polyaniline (col. 7, l. 11-19). Metal particles can also be added to the composition to control the conductivity (col. 7, l. 12-19).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the lignin sulfonic acid doped polyaniline dispersion conductive composition of Service as the ground strip layer in Yu because Yu desires a conductive composition for the ground strip layer and teaches that sulfonic acid-modified polyaniline is effective for this purpose. Silence discloses a specific composition made from a sulfonic acid modified polyaniline that is conductive and has surface resistivities within the range desired by Yu. Given the environmental safety of Silence's composition (Silence: col. 1, l. 23-25) and the fact that it is concerned with similar problems to those of Yu there is ample motivation to use this composition to form a ground strip layer in Yu's photoreceptor.

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Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu *et al.* in US Patent 5,382,486 in view of Service in US Patent 6,932,921 as applied to claims 1-9 and 11-18 above, and further in view of *Handbook of Imaging Materials* to Diamond pp. 149-164.

Yu and Silence were described above. The references do not disclose the specifics of the image forming apparatus but Diamond teaches the conventional components of an imaging forming apparatus containing a photoreceptor. These components include a development component, a transfer component, and a fixing component.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Yu's photoreceptor as modified by Silence, as discussed above, in the conventional imaging apparatus as taught by Diamond because this permits the production of images quickly in both home and office settings.

Allowable Subject Matter

Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

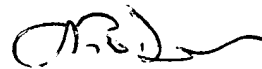
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

cdr
5 June 2006



CHRISTOPHER RODEE
PRIMARY EXAMINER